DOCUMENT RESUME

ED 388 337 JC 950 520

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TITLE Assessing Student Academic Achievement: One Institution's Experience.
PUB DATE Apr 95
NOTE 7p.; Paper presented at the Annual Meeting of the North Central Association (100th, Chicago, IL, March 26-29, 1995).
PUB TYPE Reports - Descriptive (141) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Academic Achievement; Basic Skills; *College Outcomes Assessment; *College Planning; Community Colleges; *Course Descriptions; Critical Thinking; Evaluation Methods; *Minimum Competencies; Problem Solving; Program Effectiveness; *School Effectiveness; Two Year Colleges
IDENTIFIERS *New Mexico State University Carlsbad

ABSTRACT

In preparation for an accreditation visit, New Mexico State University at Carlsbad (NMSU-C) developed plans and strategies for measuring student academic achievement. One of the first tasks completed was the development of a standardized syllabus format. The format includes course information, such as the title, number, name of instructor, available office hours, and required textbooks and supplies; a list of topics instructors will present; a list of objectives that students will accomplish; and techniques that will be used to measure students' progress. To make syllabi more uniform, NMSU-C then developed the following generalized student outcomes: (1) effective communication; (2) problem solving; (3) critical/creative thinking skills; (4) awareness of diverse cultures; (5) awareness of the sciences; (6) collaborative working skills; (7) computational skills; (8) effective and responsible interaction in society; and (9) computer and information literacy. For each of the areas, faculty developed a list of competencies that would indicate the student had acquired these skills. Faculty then compiled a list of measures they use to assess the outcomes. Finally, a series of tables were developed to show what courses satisfied the target skills for a specific degree program, and whether the classes taught, emphasized, or reinforced the outcome. The tables are useful to demonstrate that each associate degree at NMSU-C satisfies the specified skills. (A sample table for core and degree classes is included.) (KP)

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Assessing Student Academic Achievement One Institution's Experiences

David Swenson
Sharon Souter

Introduction

One of our goals in measuring student academic achievement was to provide a tool that could demonstrate that students were acquiring the skills they needed as they progressed through their courses. Our institution also needed a tool that could be implemented across the institution while remaining flexible enough to accommodate differences between degree programs. As a part of the institution's assessment plan, we will measure academic achievement and progress for general competencies, such as Communication Skills, and Critical Thinking Skills.

History of Our Plan

In the Spring of 1992 New Mexico State University at Carlsbad (NMSU-C) underwent an accreditation visit. NCA awarded continuing accreditation connected with a follow-up visit scheduled for the Spring of 1995. In preparation for this focus visit, NMSU-C developed plans and strategies for measuring student academic achievement.

A revision of the Mission and Goals Statement was needed to accurately describe the institution. A group of faculty, staff, administrators, and community stake holders met to develop the rough draft of the new Mission. Then the rest of the faculty, staff, and administration provided recommendations and suggestions to help complete the statement. Once we had the revised Mission and Goals, we had the direction of change outlined for ourselves.

Work on the development of the assessment plan began in the Fall of 1992. Part of our preparation consisted of research studying what other successful institutions had accomplished in assessment. Representatives from our campus attended conferences on assessment and visited campuses that had been successful in their efforts to measure academic achievement.

One of the first areas where the institution made early progress in developing unified tools was in the development of a standardized syllabus. One of our faculty members spent a summer researching syllabus formats, and presented the results to the faculty as a whole. The faculty met as a whole to consider the elements that

should be included in the syllabus, and developed a syllabus format that consists of the following parts:

* Basic course information including course title and number, name of instructor, office hours, and required textbooks and supplies
* List of topics that the instructor will present.
* List of objectives that the student will accomplish
* Techniques that would be used to measure the progress of the student.

In order to make the syllabi more uniform, we started to develop our own graduate outcomes describing the general skills that students at NMSU-C would have when they graduate. The faculty devoted several Friday afternoons during the Spring of 1994 to develop the statements and specifications for the graduate outcomes. The result of this effort was to describe nine graduate outcomes that were appropriate for all of the associate degree programs at NMSU-C.

Graduate Outcomes

One of the challenges we faced in developing the graduate outcomes was the fact that NMSU-C offers a wide range of Associate Degrees. We offer degrees for programs ranging from technical skill areas, including Electrical Technology and Welding, to academic programs including the Associate of Arts degree. The generalized graduate outcomes would have to be consistent with the needs of all of these areas, and could not contain the specification of skills that were too specific, or apply only to a one degree area such as welding or computer science. In the future we plan to develop more degree specific graduate outcomes that would be used for degree specific programs.

The graduate outcomes that our institution found useful included the following:

I = Effective Communication
II = Problem Solving
III = Critical/Creative Thinking Skills
IV = Awareness of Diverse Cultures
V = Awareness of the Sciences
VI = Collaborative Working Skills
VII = Computational Skills
VIII = Effective and Responsible Interaction in Society
IX = Computer and Information Literacy

For each of these areas the faculty developed a list of competencies that would indicate that the student had acquired the skills of interest. For instance the graduate outcome for Effective Communication might include the acquisition and demonstration of skills for college level reading, writing, listening, and verbal communication.

Measuring Graduate Outcomes

After a list of graduate outcomes was developed, we worked on specifying how the graduate outcomes are currently assessed in our classes. The faculty compiled a list of measures that they use, and the lists of measures were collected institution wide. The standard syllabus format was modified to include a list of graduate outcomes that were satisfied by that particular course. For instance ENGL 111G, Freshman Composition, would contain measures for measuring the achievement of skills in writing. COMM 265G, Principles of Human Communication, would contain measures for assessing achievement of college level listening and public speaking skills. A course might measure how students satisfy or partially satisfy achievement in more than one skill area, if appropriate.

The next step was to develop a table showing what courses satisfied the skills for a specific degree program. These tables are useful to demonstrate that each Associate Degree at our college does satisfy the specified skills. It was found courses at the college might do one of three things in regards to a graduate outcome. A course might **Teach** the outcome, which means that some of the required skills would be acquired in the course, and the course would partially satisfy the graduate outcome. A course could **Emphasize** the graduate outcome, which would mean that the course would complete the required graduate outcome. Finally a course might **Reinforce** an outcome, which would mean that the course would use a skill that a student had already acquired in a previous course.

In addition to the table, additional pages would describe how the skill involved was assessed. These pages would repeat the description present in the syllabi. The following is an example of one of the tables:

Graduate Outcome Satisfaction for The Associates of Applied Science in Computer Information Systems:
Emphasis: Computer Science

Graduate Outcomes:

I = Effective Communication
II = Problem Solving
III = Critical/Creative Thinking Skills
IV = Awareness of Diverse Cultures
V = Awareness of the Sciences
VI = Collaborative Working Skills
VII = Computational Skills
VIII = Effective and Responsible Interaction in Society
IX = Computer and Information Literacy

T - Taught	Basic skills for the outcome are taught for the first time.
E - Emphasis	Skills needed to complete the outcome are mastered by the students.
R - Reinforce	Skills that the student has learned are used again in this course.

Core Classes:

Evidence to be collected according to the procedure specified for these classes

Course	I	II	III	IV	V	VI	VII	VIII	IX
COMM 265G	E					E		E	
ENGL 111G	T								E
ENGL 203G ENGL 218G	E								
ECON 251G ECON 252G		E	E				E		
PSY 201G SOC 101G		T		T	E	T	T	T	

Degree Classes

Course	I	II	III	IV	V	VI	VII	VIII	IX
MATH 180							E		
MATH 185							E		
MATH 191							E		
MATH 192									
MATH 279	E						E		
BCS 210							R		T
BCS 222							R		E
BCS 271	R						R		E
C S 110G							T		T
C S 167							T		T
C S 271		T	T				E		T
C S 272							R		E
C S 273	R					E	R		E
OECS 120									E
OECS 125									E
OECS 210							R		E

During the Fall of 1994, a time line was established identifying which programs would pioneer these techniques and when the other programs would implement these techniques to measure the graduate outcomes. Initially a few of the programs will measure the graduate outcomes. After we have had a few semesters to use the graduate outcomes, we will extend the measurement of graduate outcomes to all of the programs offered at the university.

Future Plans

Our future plans for measuring student academic achievement will include measurement of graduate outcomes that are program specific. For instance, the learning outcomes for a nursing student would include skills that a welding student would not need to learn, and vice versa. Students in these programs are learning things that go beyond the generalized university wide graduate outcomes. Therefore, programs will need to develop specific student outcomes for program specific learning tasks.

Another plan our institution has for the future is to take what we have learned from developing an assessment plan for academic achievement, and develop assessment tools for the student support programs including the Learning Assistance Center, the library, and the Career Center.